

In the claims:

For the Examiner's convenience, all pending claims are presented below with changes shown in accordance with the mandatory amendment format.

1. (Currently Amended) A method comprising:

partitioning data into segments of the data;

storing in memory a set of checksums of the segments of the data, the set of checksums having a first subset corresponding to the segments of data and a second subset corresponding to the segments of data shifted by a predetermined amount;

selecting a portion of the data, ~~the portion of the data~~ comprising at least one of a subset of the segments of the data and at least one part of at least one segment of the data; and  
determining a checksum of the portion of the data, ~~the checksum of the portion of the data being determined, based, at least in part,~~ upon at least one of a checksum of the subset of the segments of the data and a checksum of the at least one part of the at least one segment of the data, the checksum of the subset of the segments of the data being based, at least in part, upon respective checksums, read from the set of checksums stored in the memory, of segments of the data comprised in the subset of the segments of the data. 2. (Currently

Amended) The method of claim 1, ~~wherein: the method~~ further comprises:

determining, based at least in part upon the checksum of the portion of the data, a checksum of the packet

the selecting of the portion of the data is based, at least in part, upon a size of a packet; and

the packet comprises the portion of the data and the checksum of the packet.

3. (Original) The method of claim 2, wherein:  
the size of the packet is selected based, at least in part, upon one or more flow control parameters.
4. (Original) The method of claim 3, wherein:  
the one or more flow control parameters are based, at least in part, upon one or more of the following: a level of network congestion, a maximum packet size, and a maximum data transfer amount.
5. (Original) The method of claim 4, wherein:  
the checksum of the packet comprises a transmission control protocol (TCP) segment checksum; and the one or more flow control parameters indicate, at least in part, status of a TCP connection.
6. (Original) The method of claim 1, wherein:  
each of the segments of the data has an identical respective size equal to N bytes;  
the data has a size equal to M bytes; and  
the set of checksums includes a number of checksums equal to twice the quotient of M divided by N.
7. (Original) The method of claim 1, the method further comprising:  
storing the segments of the data in computer-readable memory;

determining the checksum of the at least one part of the at least one segment of the data; and

contemporaneously, at least in part, with the determining of the checksum of the at least one part of the at least one segment of the data, at least one of:

reading, at least in part, the at least one part of the at least one segment of the data from the computer-readable memory; and

storing, at least in part, the at least one part of the at least one segment of the data in another computer-readable memory.

8. (Currently Amended) An apparatus comprising:

circuitry that is capable of:

partitioning data into segments of the data;

storing in memory a set of checksums of the segments of the data, the set of checksums having a first subset corresponding to the segments of data and a second subset corresponding to the segments of data shifted by a predetermined amount;

selecting a portion of the data, ~~the portion of the data~~ comprising at least one of a subset of the segments of the data and at least one part of at least one segment of the data; and

determining a checksum of the portion of the data, ~~the checksum of the portion of the data being determined, based, at least in part,~~ upon at least one of a checksum of the subset of the segments of the data and a checksum of the at least one part of the at least one segment of the data, the checksum of the subset of the segments of the data being based, at least in part, upon respective checksums, read

from the set of checksums stored in the memory, of segments of the data comprised in the subset of the segments of the data.

9. (Original) The apparatus of claim 8, wherein
- the circuitry is also capable of determining, based at least in part upon the checksum of the portion of the data, a checksum of the packet;
- the circuitry is also capable of selecting of the portion of the data based, at least in part, upon a size of a packet; and
- the packet comprises the portion of the data and the checksum of the packet.

10. (Original) The apparatus of claim 9, wherein:
- the circuitry is also capable of selecting the size of the packet based, at least in part, upon one or more flow control parameters.

11. (Original) The apparatus of claim 10, wherein: the one or more flow control parameters are based, at least in part, upon one or more of the following: a level of network congestion, a maximum packet size, and a maximum data transfer amount.

12. (Original) The apparatus of claim 11, wherein
- the checksum of the packet comprises a transmission control protocol (TCP) segment checksum; and
- the one or more flow control parameters indicate, at least in part, status of a TCP connection.

13. (Original) The apparatus of claim 8, wherein:

each of the segments of the data has an identical respective size equal to N bytes; the data has a size equal to M bytes; and

the set of checksums includes a number of checksums equal to twice the quotient of M divided by N.

14. (Original) The apparatus of claim 8, wherein

the circuitry is also capable of storing the segments of the data in computer-readable memory, determining the checksum of the at least one part of the at least one segment of the data, and contemporaneously, at least in part, with the determining of the checksum of the at least one part of the at least one segment of the data, at least one of

reading, at least in part, the at least one part of the at least one segment of the data from the computer-readable memory; and

storing, at least in part, the at least one part of the at least one segment of the data in another computer-readable memory.

15. (Currently Amended) An article comprising

a storage medium that stores instructions that when executed by a machine result in the following:

partitioning data into segments of the data;

storing in memory a set of checksums of the segments of the data, the set of checksums having a first subset corresponding to the segments of data and a second subset corresponding to the segments of data shifted by a predetermined amount;

selecting a portion of the data, ~~the portion of the data~~ comprising at least one of a subset of the segments of the data and at least one part of at least one segment of the data; and

determining a checksum of the portion of the data, ~~the checksum of the portion of the data being determined,~~ based, at least in part, upon at least one of a checksum of the subset of the segments of the data and a checksum of the at least one part of the at least one segment of the data, the checksum of the subset of the segments of the data being based, at least in part, upon respective checksums, read from the set of checksums stored in the memory, of segments of the data comprised in the subset of the segments of the data.

16. (Original) The article of claim 15, wherein:

the instructions when executed by the machine also result in determining, based at least in part upon the checksum of the portion of the data, a checksum of the packet; and

the selecting of the portion of the data is based, at least in part, upon a size of a packet; and

the packet comprises the portion of the data and the checksum of the packet.

17. (Original) The article of claim 16, wherein:

the size of the packet is selected based, at least in part, upon one or more flow control parameters.

18. (Original) The article of claim 17, wherein:

the one or more flow control parameters are based, at least in part, upon one or more of the following: a level of network congestion, a maximum packet size, and a maximum data transfer amount.

19. (Original) The article of claim 18, wherein:

the checksum of the packet comprises a transmission control protocol (TCP) segment checksum; and

the one or more flow control parameters indicate, at least in part, status of a TCP connection.

20. (Original) The article of claim 15, wherein:

each of the segments of the data has an identical respective size equal to N bytes; the data has a size equal to M bytes; and the set of checksums includes a number of checksums equal to twice the quotient of M divided by N.

21. (Original) The article of claim 15, wherein the instructions when executed by the machine also result in:

storing the segments of the data in computer-readable memory; determining the checksum of the at least one part of the at least one segment of the data; and

contemporaneously, at least in part, with the determining of the checksum of the at least one part of the at least one segment of the data, at least one of:

reading, at least in part, the at least one part of the at least one segment of the data from the computer-readable memory; and

storing, at least in part, the at least one part of the at least one segment of the data in another computer-readable memory.

22. (Currently Amended) A system comprising:

a circuit board that includes a circuit card slot; and

a circuit card that is capable of being coupled to the circuit board via the circuit card slot, the circuit card including circuitry that is capable of:

storing in memory a set of checksums of the segments of the data, the set of checksums having a first subset corresponding to the segments of data and a second subset corresponding to the segments of data shifted by a predetermined amount;

selecting a portion of the data, ~~the portion of the data~~ comprising at least one of a subset of the segments of the data and at least one part of at least one segment of the data; and

determining a checksum of the portion of the data, ~~the checksum of the portion of the data being determined,~~ based, ~~at least in part,~~ upon at least one of a checksum of the subset of the segments of the data and a checksum of the at least one part of the at least one segment of the data, the checksum of the subset of the segments of the data being based, at least in part, upon respective checksums, read from the set of checksums stored in the memory, of segments of the data comprised in the subset of the segments of the data.



23. (Original) The system of claim 22, wherein:  
the circuit board includes a host processor and a bus that couples the host processor to the circuit card slot; and  
when the circuit card is coupled to the circuit board via the circuit card slot, the circuit card is coupled to the host processor via the bus.

24. (Original) The system of claim 23, wherein:  
the circuit card includes computer-readable memory to store the data and at least one buffer memory to store the at least one part of the at least one of the segments of the data.

25. (Original) The system of claim 23, wherein:  
the circuit board includes host memory that is capable of storing the data;  
the circuit card includes computer-readable memory; and  
when the circuit card is coupled to the circuit board via the circuit card slot, the circuitry is capable of receiving the data from the host memory and storing the data in the computer-readable memory.

26. (Original) The system of claim 25, wherein:  
the circuitry is also capable of generating a transmission control protocol (TCP) packet that comprises the portion of the data and the checksum of the portion of the data.